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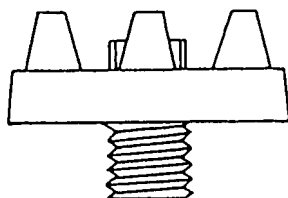
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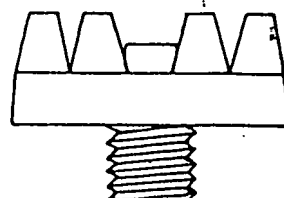
意匠に係る物品 くつ紙

説明 背面図は正面図と、右側面図は左側面図と対称にあられる。

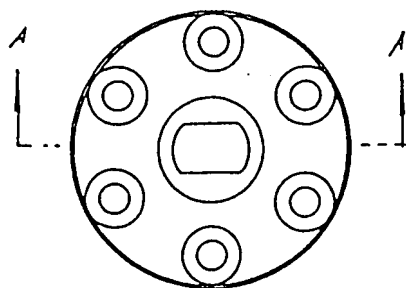
正面図



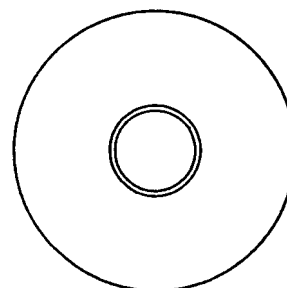
左側面図



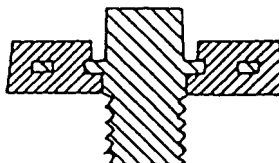
平面図



底面図



A-A線端面図



N<sup>o</sup> 2814



A.D. 1913

*Date of Application, 3rd Feb., 1913*

*Complete Specification Left, 24th May, 1913—Accepted, 3rd Feb., 1914*

### PROVISIONAL SPECIFICATION.

#### Improvements in Non-slipping Devices for Boots and Shoes.

I, JOHN GORDON NAIRN, Senior, of Drumgor, 26, Knowsley Road, Southport, in the County of Lancaster, Esquire, do hereby declare the nature of this invention to be as follows:—

This invention has reference to non-slipping devices for boots and shoes, and  
5 has for its object a device to be so applied to the soles or heels of boots and shoes that it can be put into the operative position to obtain a grip of the ground to prevent slipping, or put out of operation when not required for use.  
According to this invention, I provide a holder to receive a base piece which latter has spikes or studs projecting from its face. The said holder may embody  
10 a socket having external blades projecting radially from the socket and made slightly wedge shape in cross section, the apex or part that enters the leather of each blade having a cutting edge. As an alternative the exterior part of the tube or socket may for half or any other part of its length be in a corrugated form the remaining part of the length being in circular form. A hole is made  
15 in the tread into which this socket is tightly driven, the radial blades or wings or the corrugated ridges entering the tread, thus not only preventing the socket turning in the hole, but preventing it being withdrawn. The base piece is provided with a centre stud, spigot or shank, adapted to fit the socket, to which it is secured by means of a bayonet joint. The base piece has also a pair or more  
20 of spikes or pins projecting from it at a suitable radius from the centre stud and parallel thereto, for the purpose to be described presently. The bayonet joint is formed by the socket being provided with slots, each slot being longitudinal for part of its length with an intermediate part which is transverse. The stud or shank which enters the socket has lateral projecting pins which  
25 enter these slots. By inserting the stud or shank into the socket, the pins enter one part of the longitudinal slots, then by turning the base piece the projecting pins enter the transverse part. After traversing this, then by pressing the base piece firmly down, the spikes impale themselves into the tread, and the pins enter the final longitudinal portion of the slots. Hence the base piece is firmly  
30 locked in the holder, so that it cannot turn and cannot accidentally come out. To withdraw the base piece, it is prised or pulled up until the spikes or pins of the base piece are clear of the tread. It is then turned the segment of a revolution, and then withdrawn by a longitudinal movement. In order to prevent dirt getting into the socket to choke it when the base piece has been  
35 taken off, the socket is closed by a separate stud, made similar to the stud or shank on the base piece, except (1) that it has a slit in its head for the application of a driver to turn it by, and (2) that its lateral projecting pins are placed in a slightly different position, so that it will enter the socket for its whole length directly on being inserted, and then by turning it the pins enter the  
40 transverse parts of the slots in the socket and go no further. The two parts thus become locked to prevent withdrawal by longitudinal movement. A convenient way of making the socket is as follows:—A short tube is provided in which are formed the bayonet slots above referred to. Over this short tube is tightly

[Price 8d.]

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fixed a thimble or ferrule having the blades or wings projecting radially from its exterior or in place of these the corrugated form may be used. The thimble being closed at one end, prevents any wet that may get into the tube penetrating into the boot. As an alternative, with proper mechanical appliances the longitudinal and transverse slots may be made in the sides of the tube to about half its thickness thus obviating the necessity of an outer tube or covering, such tube is closed of course at one end to exclude wet.

In another arrangement the holder may embody a plate fastened by screws or nails into a cavity in the tread of the boot or shoe, or it may consist of a spike driven into the tread of the boot or shoe. A screwed hole is made in the holder to receive a screw which projects from the base piece, or a spigot on the base piece is adapted to snap into or enter a socket in the holder.

If a spigot on the base piece is used to engage a socket in the holder, the spigot or male member is made in the form of a shank or spindle split lengthwise a certain distance, so that the prongs thus formed are compressible, and will enter a tube, which is let into the sole or heel of the boot or shoe, this tube forming the socket or female member. The tube is preferably a thimble closed at the inner end, so that any water getting into the thimble cannot penetrate into the boot. The prongs being springy bind against or grip the interior of the thimble or tube, and ensure the base being held firmly in position, so that it can only be removed by the use of a suitable tool. In the other arrangement the spigot or male member consists of a hollow rounded head rendered slightly compressible by being formed with a slit or slits in it, and the hollow filled with rubber or some other suitable compressible material to create a spring in, or supplement the spring of, the head. The socket or female member forms a pocket to receive the rounded head, the entrance into the pocket being rather smaller than the rounded head. To fasten the base piece to the holder, the rounded head is forcibly pressed into the socket, and the head by reason of its springiness is compressed, and passes into the pocket. Then when the springy head has passed into the pocket, the head snaps back or expands, so that the two parts cannot possibly be accidentally separated, and a secure fastening is the result. To undo the base plate, all that is necessary is to force the head back past the narrow entrance into the pocket, by the use of a lever or prising tool, and when the head is once clear of the pocket, the base plate is free.

In the event of a screw being used, it is in one arrangement rivetted or otherwise secured to the base piece, and in order to apply the base piece to the holder fixed in the tread, its screw is screwed into the screwed hole in the holder, so as to bind the base piece to the tread when the wearer desires to obtain a firm grip of the ground. In order to prevent the base piece coming unscrewed accidentally, projecting studs or pins may be arranged to project from the inner face of the base piece, so as to bind or jamb against the holder when the base piece is screwed up. When however such studs or spikes are not required, the base piece is unscrewed and put away or carried in the pocket.

The screw in another arrangement, is freely mounted in the centre of the base piece, for the purpose of enabling the base piece to freely rotate thereon, without slackening the screw. In this case the screw has a head, and the base piece is mounted on the neck of the screw which has a shoulder, and when the screw is tightened up, this shoulder abuts against the holder, and prevents the head binding against the base piece, thus ensuring that the base piece is always left free to rotate. The head of the screw can form a stud, and however firmly it is tightened up, the base piece is left free to revolve. The base piece on its inner face may be roughened or supplied with pins or protuberances, adapted to bite the leather or otherwise grip it, in cases where it is not desired that the base piece should turn.

In order to prevent dirt getting into the screwed hole or the pocket in the holder to choke it, when the base piece has been taken off, the holder may be provided on its outer face with a shutter, which is by preference mounted on a

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centre pin screwed into the holder, so that it can be rotated by hand. This shutter is of the hit and miss type, being provided with a hole at a suitable radius from its centre or axis, and the screwed hole or pocket in the holder (also the holes in the holder for the fastening screws) are formed at a similar radius from the centre. Consequently the hole in the shutter can be brought opposite the hole or pocket in the holder when it is desired to attach the studded base piece, or turned out of register when the base piece has been removed, so as to close the hole. The shutter in the case of the holder being of spike form, may be mounted on a screw or pin secured direct to the tread.

- 10 Any suitable number of these devices may be applied to the tread of the boot or shoe, for example two, three or more may be applied to the sole, and one or more to the heel. In use the holders are secured permanently to the tread, and form no obstruction whatever when the boot or shoe is used for walking. When however the wearer desires to obtain a grip on soft or slippery ground, he simply opens up the sockets by removing the studs, or opening them by turning the revolving shutter, and applies a base piece to each holder, so that the studs or spikes, project downwards at right angles to the tread, by which means he obtains without changing his foot wear, a spiked or studded boot or shoe.

- 20 The invention will be found very useful for golfers, cricketers and others who require to obtain a firm grip of the ground while playing, and yet do not desire to change their boots or shoes when they have finished the game. By simply removing the base pieces as described, the wearer converts the spiked boots or shoes into walking ones without spikes.

Dated this 1st day of February, 1913.

25

For the Applicant:

WM. P. THOMPSON & Co.,  
6, Lord Street, Liverpool.

## COMPLETE SPECIFICATION.

**Improvements in Non-slipping Devices for Boots and Shoes.**

- 30 I, JOHN GORDON NAIRN, Senior, of Drumgor, 26, Knowsley Road, Southport, in the County of Lancaster, Esquire, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- This invention has reference to non-slipping devices for boots and shoes, and has for its object a device to be so applied to the soles or heels of boots and shoes that it can be put into the operative position to obtain a grip of the ground to prevent slipping, or put out of operation when not required for use.

- The invention is of the type in which studs or spikes removable or replaceable at will, can be attached to the treads of boots and shoes, so that when the wearer requires to obtain a firm foot-hold, he can apply these studs, or when no such extra firm foot-hold is required, the said studs can be removed.

- The invention is characterised by providing in combination with the sole or heel of a boot or shoe, a base piece having a centre hole and studs or roughened surface on its lower face, and a pin passed through the centre hole in the base piece and screwed into a socket driven into the tread from below without removing the outsole, or split lengthwise so that the springy prongs will engage the socket.

- I am aware that it has heretofore been proposed to provide a socket piece for use in connection with the attachment to boots and shoes, of studs, spikes and such like, but these sockets have been secured between the permanent inner and outer

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soles of the boot or shoe, or driven into the sole preferably from the inside so that it was only a boot maker who could apply them, and then only when the boot or shoe is being made or re-soled, also that it is not broadly new to secure a removable sole and heel by means of an internally screwed socket piece, and a screw nail passed through the removable sole or heel into the socket piece, the socket pieces in this latter case having been externally screw threaded and screwed into corresponding holes in the permanent sole and heel and also provided with flanges through which nails are passed into the said permanent sole and heel. By my invention any amateur can apply the sockets to his boots by simply letting or driving them into the tread of the boot or shoe from below, and then at desired times when he requires to obtain a firm grip on the ground, he applies a base piece having studs or roughened surface on its lower face, each base piece being secured in position by a pin passed through a centre hole in the base piece and screwed into the socket, or split lengthwise so that the springy prongs will engage the said socket.

These and other features of the invention will be understood from the following description, reference being had to the accompanying drawings, in which:—

Figure 1 is a sectional view on line X Y of Figure 2 of my device applied to the heel of a boot or shoe;

Figure 2, an inverted plan view of the device;

Figure 3, a sectional view of the socket member;

Figure 4, a front view of the stud for closing the said member;

Figure 5, an edge view of the base piece;

Figure 6, a front view of the screw for fastening the base piece to the socket;

Figure 7, a sectional view of the socket member and closing stud;

Figure 8 is a sectional elevation of my device showing certain modifications; and

Figures 9—12 are detail views thereof.

Referring first to Figures 1—7, I provide a screwed socket A let or driven into and fixed in the tread of the boot or shoe, from below, a base piece B with studs C or roughened surface on the lower face, which base piece is adapted to be secured to the tread at desired times by a screw D engaging the socket A and passing through a centre hole in the base piece. E is a screwed stud for closing the socket when the base piece is not in use. If the entrance to the hole in the socket is countersunk as shown in Figure 7, then the head of the stud is made of a shape to correspond.

The exterior of the socket may for half or any other part of its length, be corrugated or have barbs on it. A hole is made in the tread into which this socket is tightly driven, the barbs or corrugated ridges entering the tread, thus not only preventing the socket turning in the hole, but preventing it being withdrawn. This hole can easily be made by the wearer of the boot without employing a boot maker.

The base piece B may have one, two or more spikes or pins F projecting from its inner face for the purpose to be described presently. It has a screwed centre hole for the screw D.

The fastening screw has a head G, and the screwed shank D is adapted to screw into the centre hole of the base piece B, and into the socket A. It is however formed with an unscrewed neck portion H on which the base piece can revolve, while the screwed shank portion D prevents the fastening screw becoming separated from the base piece, unless it be positively unscrewed therefrom. The neck portion H is of a little smaller diameter than the screwed portion D. The head G of the screw can if desired form a stud, and however firmly the screw is tightened up, the base piece is left free to revolve. If however the base piece is provided on its inner face with the pins or protuberances in cases when it is not desired that the base piece should turn, then the base piece will bite the leather or otherwise grip it.

In order to prevent dirt getting into the screwed socket to choke it, when the

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base piece has been taken off, the socket may be closed by the screwed stud E. This screwed stud can be taken out when it is desired to attach the base piece, or replaced when the base piece has been removed so as to close the hole. In order to enable the screwed stud E to enter the hole easily, the end portion *c* of the

5 screwed stud is made a little smaller diameter than the screwed portion thereof. This forms a guide to facilitate the thread on the screw engaging with the thread in the socket. It is of course already known to use plugs for closing the socket holes of studs *etc.*, when the studs are not in place.

Instead of a screwed stud, a shutter may be used capable of being closed by

10 hand. This shutter consists of a disc having a centre hole through which a screw is passed screwed into the leather, and at a suitable radius from the centre hole, another hole is made so that by turning the disc, the radial hole is brought into or out of register with the screwed socket.

Any suitable number of these devices may be applied to the tread of the boot

15 or shoe, for example two, three or more may be applied to the sole, and one or more to the heel. In use the sockets are secured permanently to the tread, and form no obstruction whatever when the boot or shoe is used for walking. When however the wearer desires to obtain a grip on soft or slippery ground, he simply opens the sockets by removing the studs, and applies a base piece to each socket,

20 so that the studs or roughened surface project downwards at right angles to the tread, by which means he obtains without changing his foot wear, a spiked or studded boot or shoe.

The base piece may if desired be secured to the sole or heel by a spigot adapted to engage the socket, and passing through the centre hole in the base piece.

25 This arrangement is shown in Figures 8 to 12, the spigot or male member being in the form of a headed stud, whose shank *K* passing through the centre hole in the base piece *B*, is split lengthwise a certain distance, so that the prongs thus formed are compressible, and will enter the socket or female member *A* let into the sole or heel of the boot or shoe. The socket may be left plain or be screw

30 threaded (Figure 9), and the prongs being springy bind against or grip the interior of the socket *A*, and ensure the base *B* being held firmly in position, so that it can only be removed by the use of a suitable tool. To fasten the base piece *B* to the socket *A*, the shank *K* of the stud is forcibly pressed into the socket, and the prongs by reason of their springiness, are compressed, so that

35 the prongs bind against or grip the interior of the socket, and the two parts cannot possibly be accidentally separated, and a secure fastening is the result. To undo the base plate *B*, all that is necessary is to remove the stud by the use of a lever or prising tool, and when the shank is once clear of the socket, the base plate is free. *I* is a plate which is fastened to the tread of the heel by screws,

40 immediately under the socket *A*. This serves to hold the socket in place, and prevent it being withdrawn.

The invention will be found very useful for golfers, cricketers and others who require to obtain a firm grip of the ground while playing, and yet do not desire to change their boots or shoes when they have finished the game. By simply

45 removing the base pieces as described, the wearer converts the spiked boots or shoes into walking ones without spikes.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

- 50 1. The combination with the sole or heel of a boot or shoe, of a base piece having a centre hole and studs or roughened surface on its lower face, sockets let or driven into cavities in the tread from below without removing the outsole, and a pin passed through the centre hole in the base piece and screwed into the socket in the tread, or split lengthwise so that the springy prongs will engage the socket.
- 55 2. A device according to Claim 1, characterized in that the base piece is provided with a screwed centre hole, and the fastening screw is adapted to

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screw into this centre hole, but is provided with an unscrewed neck portion on which the base piece can revolve, while the screwed portion prevents the fastening screw becoming accidentally separated from the base piece.

3. A device according to Claim 1, characterized in that the end of the fastening pin that is screwed into the socket or hole, is made a little smaller diameter than the screwed portion so as to enable this end portion to enter the hole easily and form a guide to facilitate the thread on the screw engaging the thread in the socket or hole. 5

4. The combination with the sole or heel of a boot or shoe, having sockets let or driven into cavities in the tread from below without removing the outsole, for the purpose of receiving pins passed through the centre hole in a base piece formed with studs or roughened surface on its lower face, of a screwed stud for closing the hole when the base piece is not in use, said stud having its forward end made a little smaller diameter than the screwed portion so as to enable this end portion to enter the hole or socket easily and form a guide to facilitate the thread on the screw engaging the thread in the socket or hole. 10

5. A device according to Claim 1, characterized in that the socket member has external barbs or corrugations for the purpose described.

6. A device according to Claim 1, characterized in that the base piece is provided with pins or spikes on its inner face for engaging the leather of the boot when it is not required that the base piece should turn. 20

7. The device to be applied to boots and shoes at desired times to enable them to obtain a grip of the ground, constructed, arranged and operating, substantially as hereinbefore described with reference to and shown in the drawings annexed. 25

Dated this 23rd day of May, 1913.

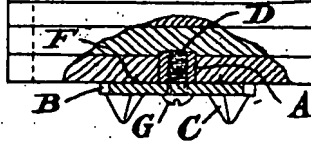
For the Applicant:

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Chartered Patent Agents. 30

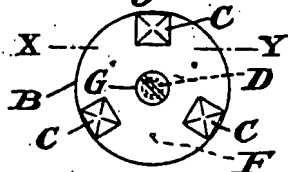
SHEET 1.

SHEET 2.

*Fig.1.*



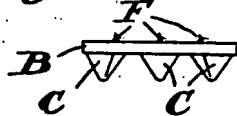
*Fig.2.*



*Fig.3*



*Fig.4.*



*Fig.5.*

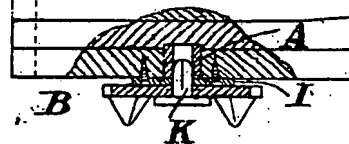


*Fig.6.*

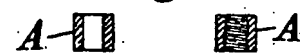


*Fig.7.*

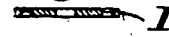
*Fig.8.*



*Fig.9.*



*Fig.10.*



*Fig.11.*



*Fig.12.*

[This Drawing is a reproduction of the Original on a reduced scale.]